Abstract

ABSTRACT

Aim: To determine the association between Salivary Fructosamine and Plasma Glycated Hemoglobin, Plasma Fasting and Post Prandial Glucose levels among Type II Diabetes mellitus patients and Non Diabetic healthy controls.

Objectives:

1. To obtain saliva and blood samples from Type II Diabetes mellitus patients and Non Diabetic healthy controls.
2. To estimate the level of Salivary Fructosamine in saliva samples.
3. To estimate the levels of Plasma Glycated Hemoglobin, Plasma Fasting and Post Prandial Glucose levels in blood samples.
4. To determine the association between Salivary Fructosamine, Plasma Glycated Hemoglobin and Plasma Fasting and Post Prandial Glucose levels.

Methodology: This cross sectional study was conducted over a period of five months. The study participants were divided into two groups, Type II Diabetes mellitus patients were included in Group 1, and non diabetic healthy individuals were included in Group 2. A total of 100 participants were included in the study with 50 participants in each group. Blood and saliva samples were collected from the participants to estimate the levels of Plasma Fasting Glucose, Plasma Post Prandial Glucose, Plasma Glycated Hemoglobin and Salivary Fructosamine. The data was compiled and analyzed using SPSS software and results were generated.

Results: The study results showed that Type II Diabetes mellitus patients had significantly higher levels of Salivary Fructosamine, when compared to non diabetic healthy individuals (p value < 0.001). Among the Group1 individuals high correlation was observed between Salivary Fructosamine, Plasma Fasting Glucose levels (r value of 0.934), Plasma Postprandial Glucose levels (r value of 0.910) and, Plasma Glycated Hemoglobin (r value of 0.893). In Group 2 individuals high correlation was observed between Salivary Fructosamine and Plasma Fasting Glucose levels (r value of 0.794), moderate correlation was observed between Salivary Fructosamine and Plasma Postprandial Glucose (r value of 0.530) and Plasma Glycated Hemoglobin levels (r value of 0.307).

Conclusion: The overall study results showed that Salivary Fructosamine levels were significantly higher in diabetic patients when compared to healthy individuals. Also positive correlation was observed between Salivary Fructosamine, Plasma Fasting, Plasma Postprandial and Plasma Glycated Hemoglobin among Type II Diabetes mellitus patients .The study throws light on the potential use of Salivary Fructosamine for the diagnosis and post treatment monitoring of glycemic control among diabetic patients.

Keywords: SALIVA, FRUCTOSAMINE, BIO MARKER, NON INVASIVE, DIABETES MELLITUS.